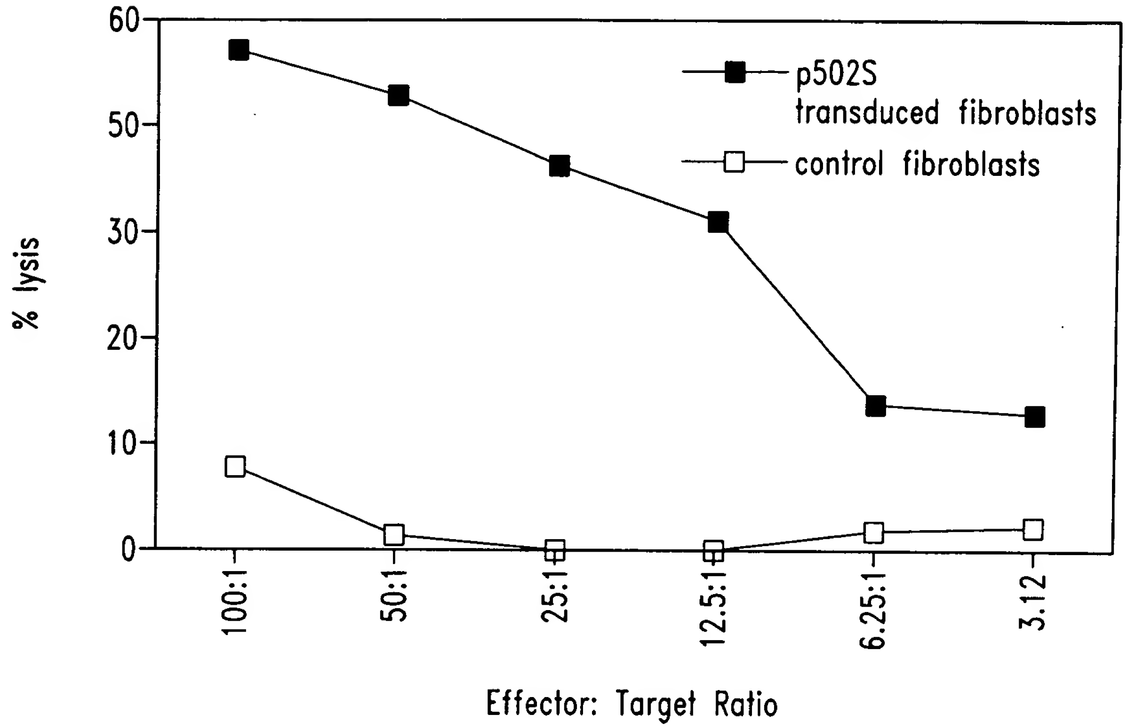

60
50
30
20
10
0
% lysis
p502S transduced fibroblasts
control fibroblasts
100:1
50:1
25:1
12.5:1
6.25:1
3.12
Effector: Target Ratio

Fig. 1

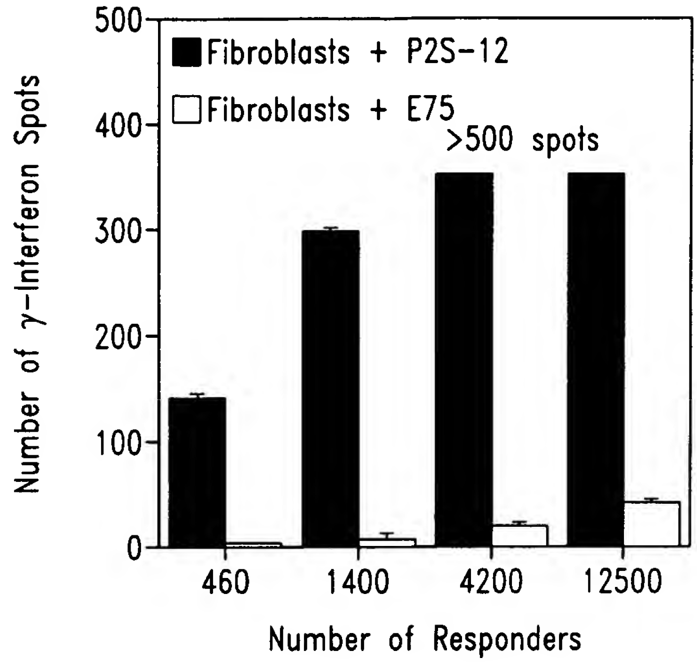

500
400
300
200
100
0
Number of γ-Interferon Spots
Fibroblasts + P2S-12
Fibroblasts + E75
>500 spots
460
1400
4200
12500
Number of Responders

Fig. 2A

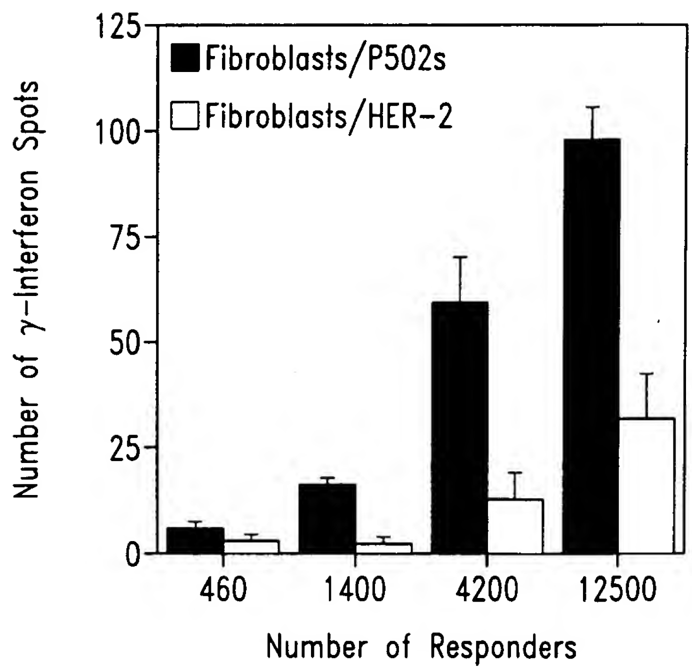

125
100
75
50
25
0
Number of γ-Interferon Spots
Fibroblasts/P502s
Fibroblasts/HER-2
460
1400
4200
12500
Number of Responders

Fig. 2B

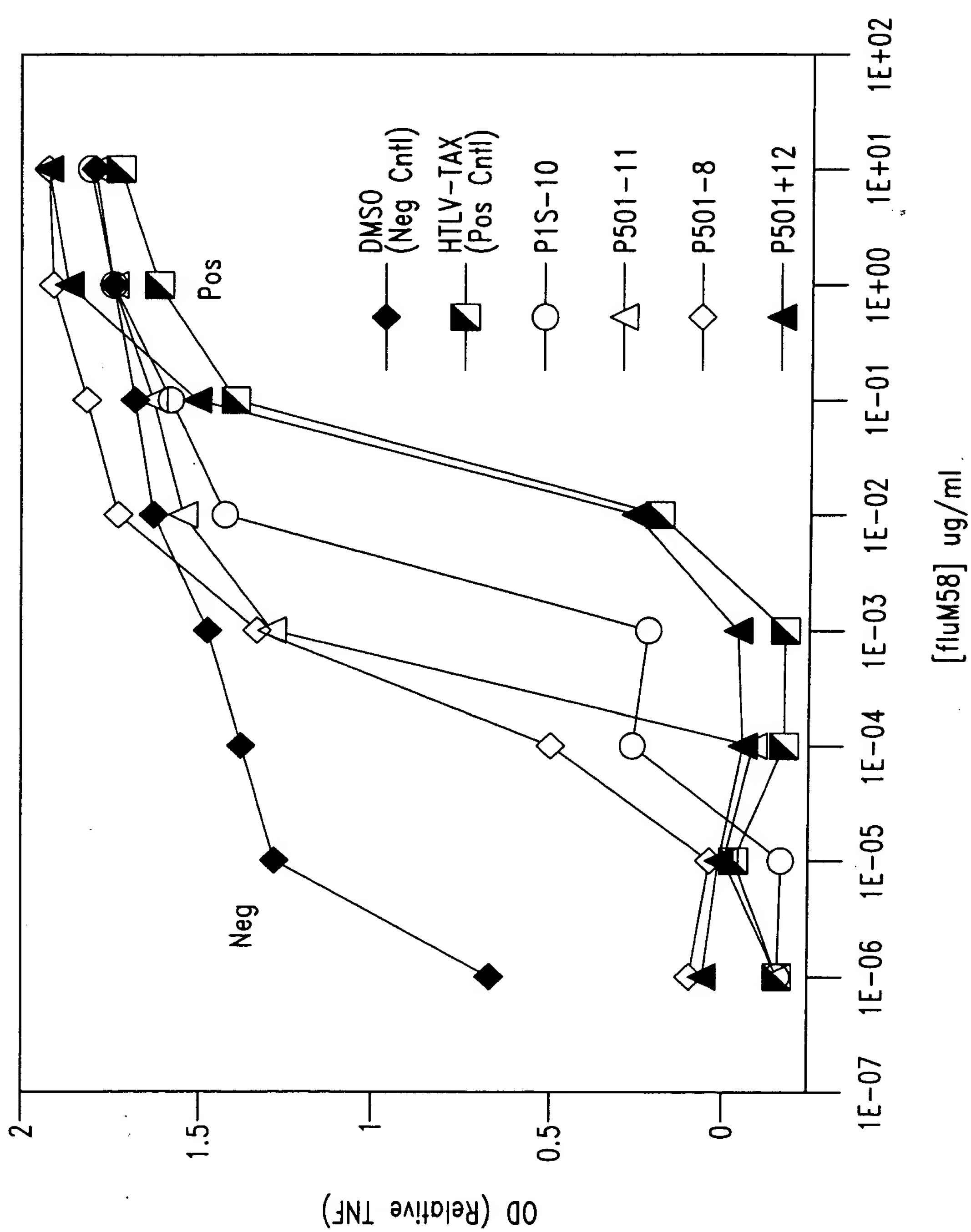

OD (Relative TNF)
[fluM58] ug/ml
DMSO (Neg Cntl)
HTLV-TAX (Pos Cntl)
P1S-10
P501-11
P501-8
P501+12
Pos
Neg
2
1.5
1
0.5
0
1E-07
1E-06
1E-05
1E-04
1E-03
1E-02
1E-01
1E+00
1E+01
1E+02

Fig. 3

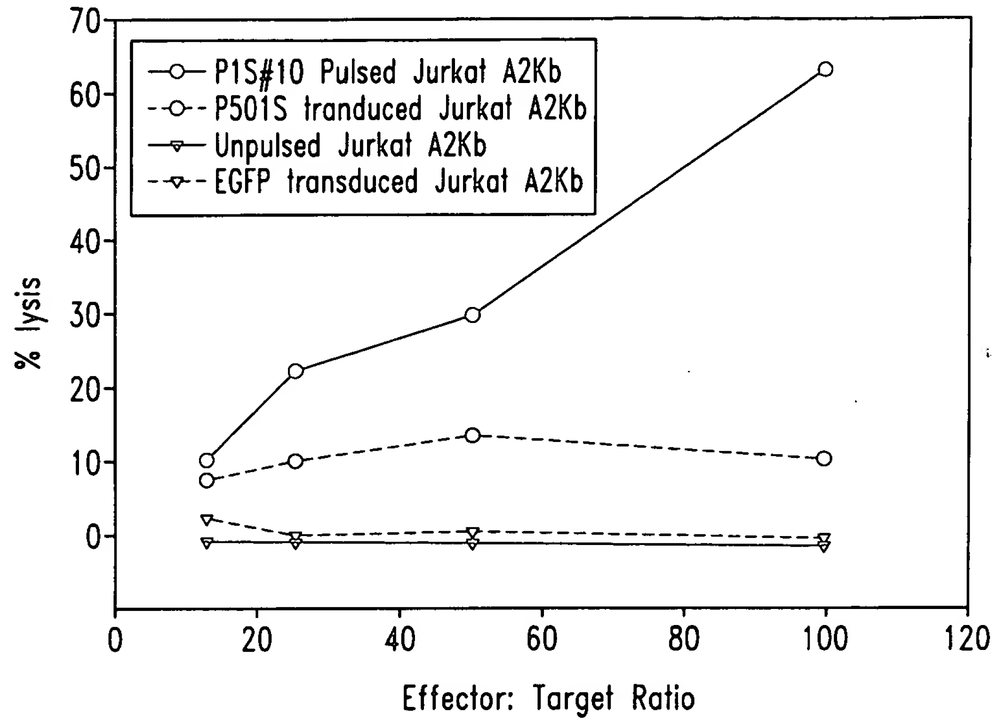

70
60
50
40
30
20
10
0
% lysis
P1S#10 Pulsed Jurkat A2Kb
P501S tranduced Jurkat A2Kb
Unpulsed Jurkat A2Kb
EGFP transduced Jurkat A2Kb
0
20
40
60
80
100
120
Effector: Target Ratio

Fig. 4

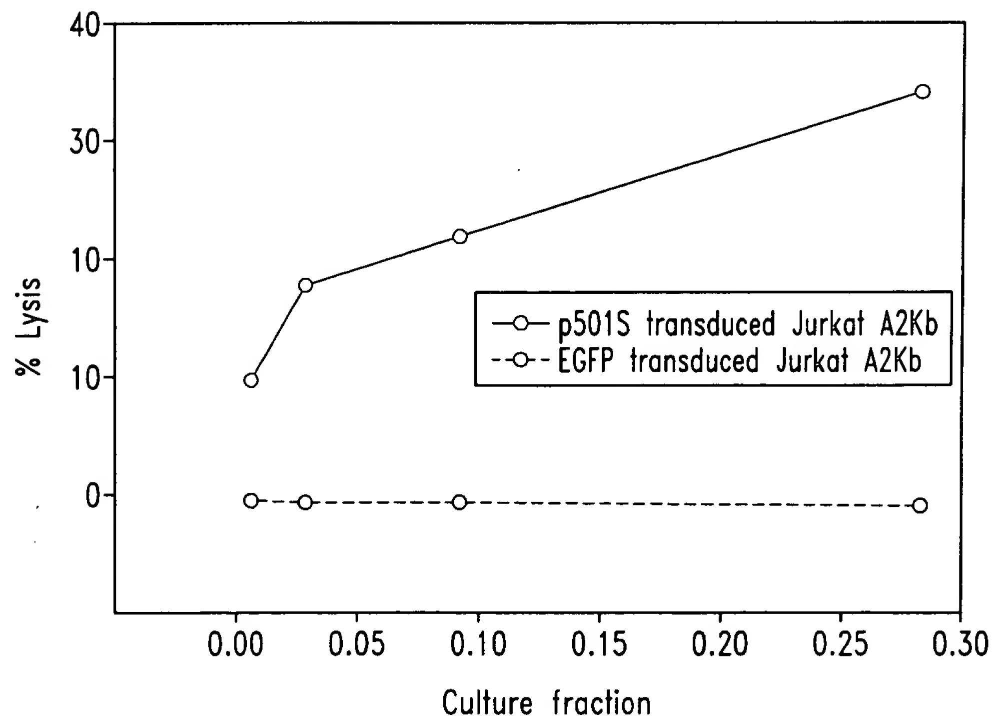

40
30
10
10
0
% Lysis
p501S transduced Jurkat A2Kb
EGFP transduced Jurkat A2Kb
0.00
0.05
0.10
0.15
0.20
0.25
0.30
Culture fraction

Fig. 5

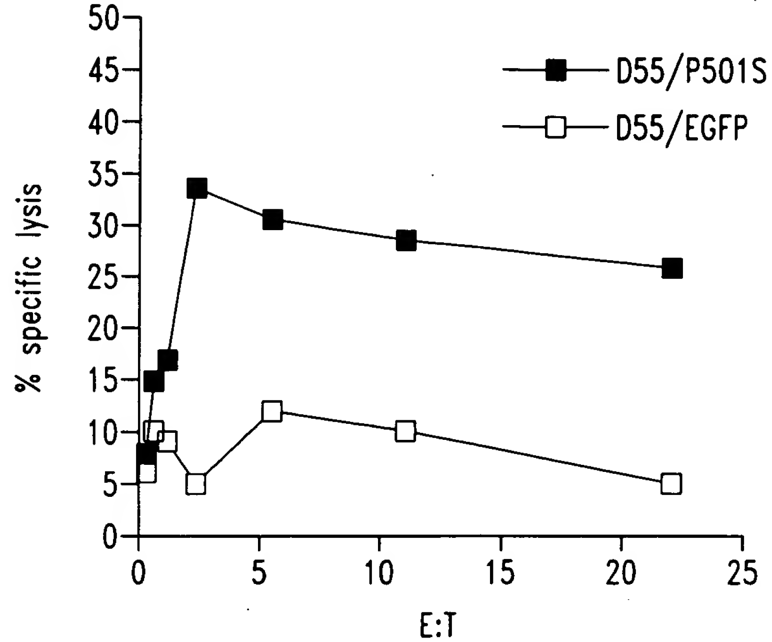

% specific lysis
50
45
40
35
30
25
20
15
10
5
0
0
5
10
15
20
25
E:T
D55/P501S
D55/EGFP

Fig. 6A

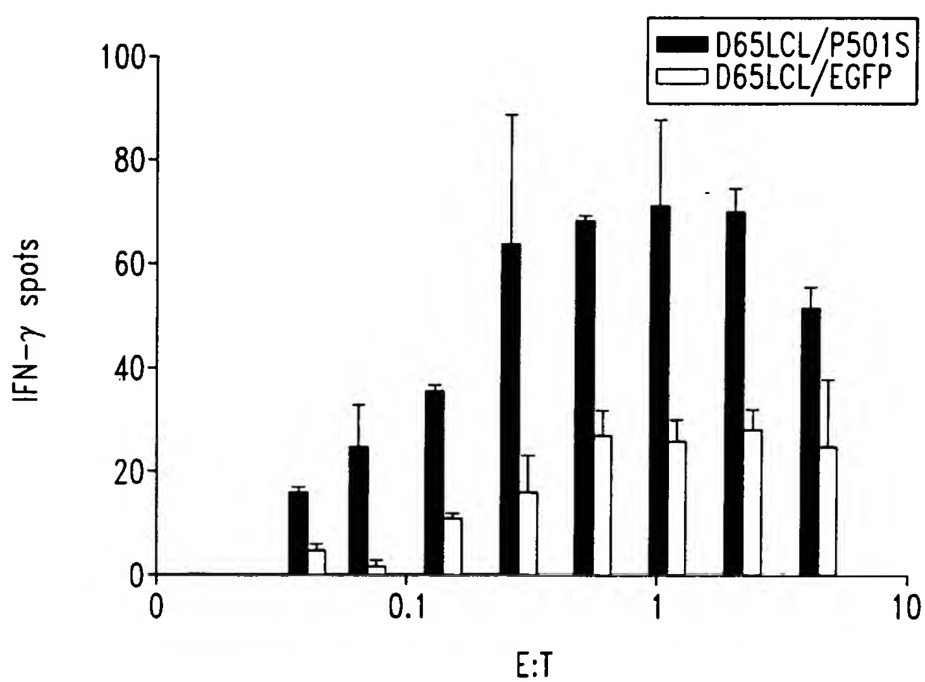
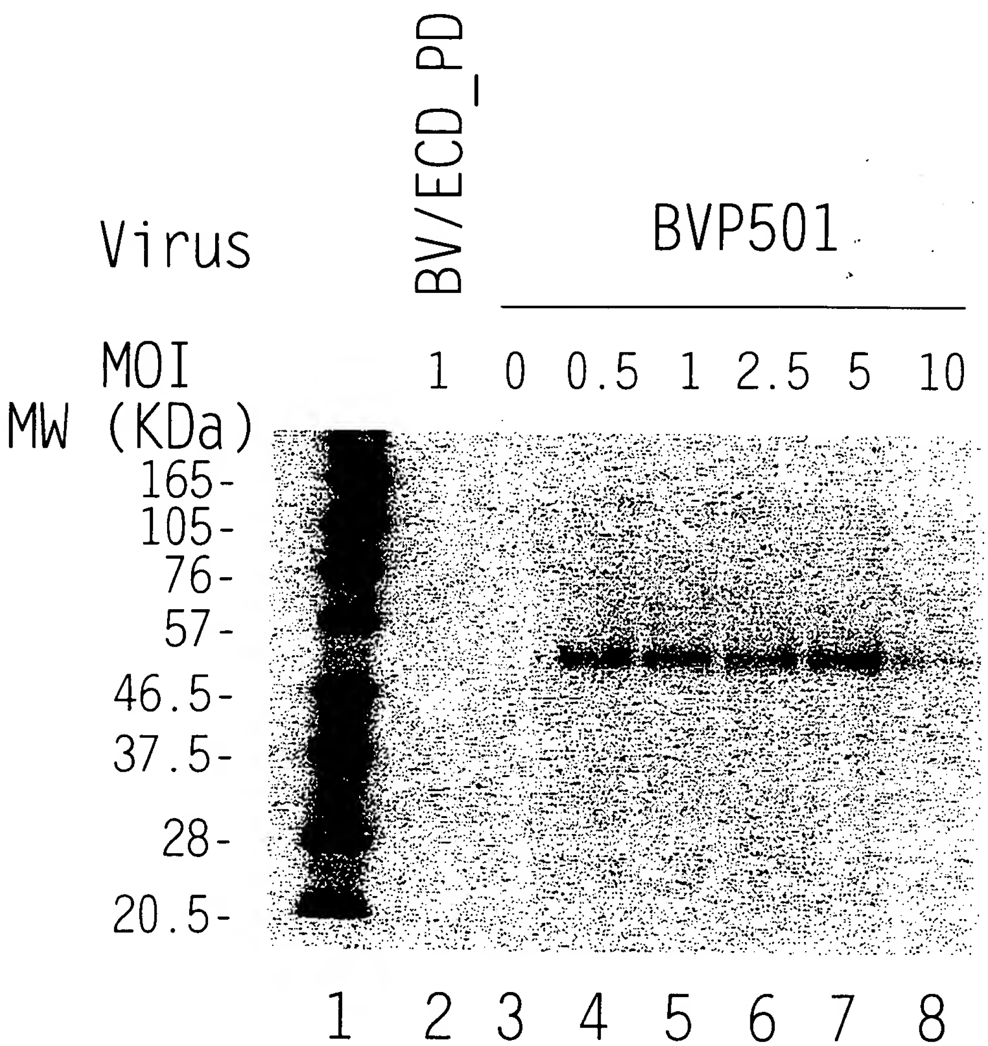

IFN-γ spots
100
80
60
40
20
0
0
0.1
1
10
E:T
D65LCL/P501S
D65LCL/EGFP

Fig. 6B

Expression of P501S
by the Baculovirus Expression System



C 6 million high 5 cells in 6-well plate were infected with an unrelated control virus BV/ECD_PD (lane2), without virus (lane3), or with recombinant baculovirus for P501 at different MOIs (lane 4-8). Cell lysates were run on SDS-PAGE under the reducing conditions and analyzed by Western blot with a monoclonal antibody against P501S (P501S-10E3-G4D3). Lane 1 is the biotinylated protein molecular weight marker (BioLabs).

Fig. 7

FIGURE 8. Mapping of the epitope recognized by 10E3-G4-D3

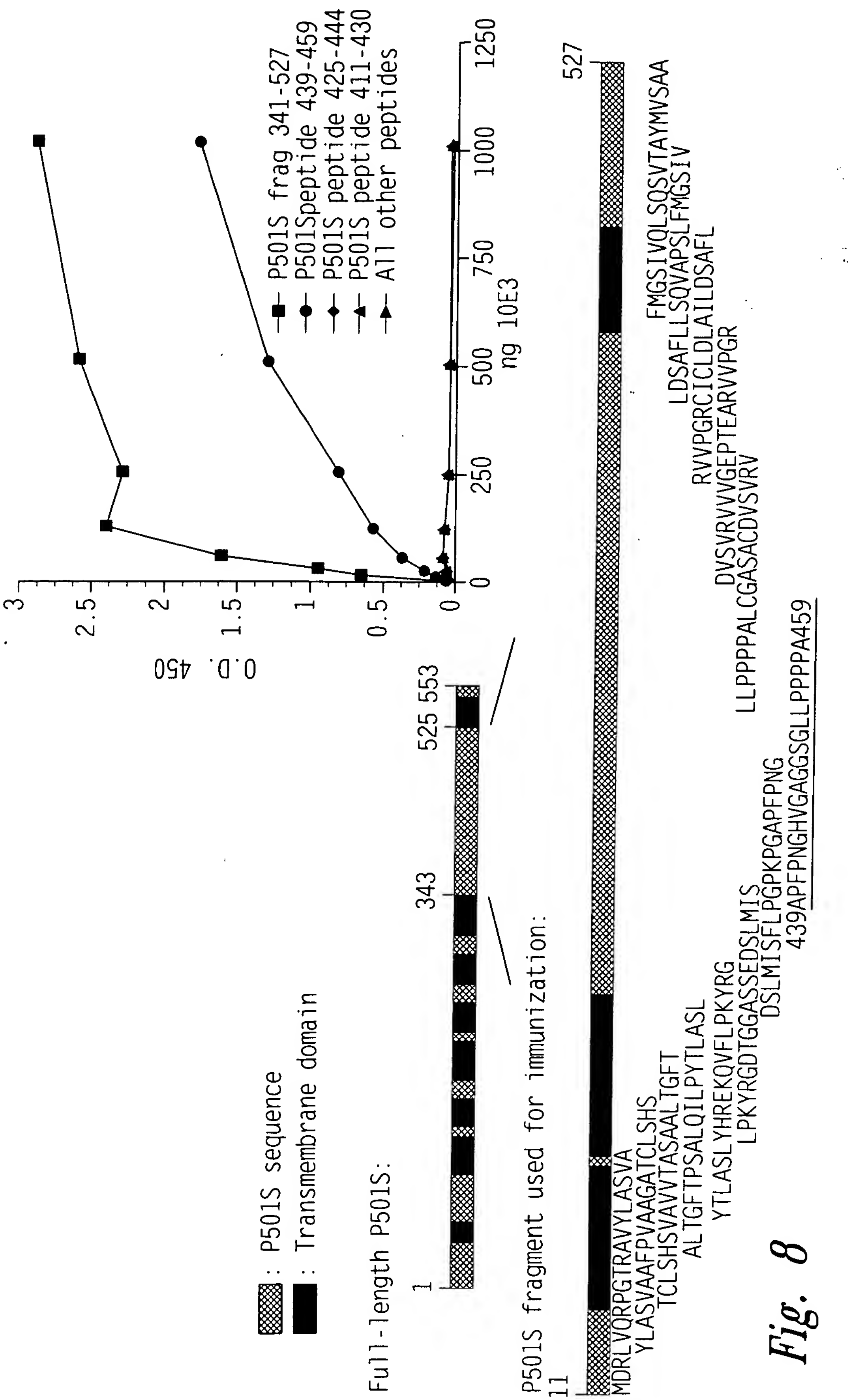


Fig. 8

Schematic of P501S with predicted transmembrane, cytoplasmic, and extracellular regions

MVQRLWVSRLLRHRK AQLLLVNLLTFGLEVCLAAGIT **YVPPLLLEVGVEEKFM** TMVLGIGPVLGLVCYPLLGSAS

DHWRGRYGRRRP FIWALSLGILLSLFLIPRAGWL **AGLLCPDPRPLE** LALLILGVGLLDFCGQVCFTPL

EALLSDLFRDPDHCRQ AYSVYAFMISLGGCLGYLLPAI **DWDTSALAPYLGTQEE**

CLFGLLTLIFLTCVAATLLV *AEEAALGPTEPAEGLSAPSLSPHCCPCRARLAFRNLGALLPRL*

HQLCCRMPRTLRR LFVAELCSWMALMTFTLFYTDF **VGEGLYQGVPRAEPGTEARRHYDEGVR**

MGSLGLFLQCAISLVFSLVM *DRLVQRFGTRAVYLAS* VAAFPVAAGATCLSHSVAVVTA **SAA**

LTGFTFSALQILPYTLASLY *HREKQVFLPKYRGDTGGASSEDSLMTSFLPGPKPGAPFPNGHVGAGGSGL*

LPPPPALCGASACDVSVRVVVGEPTEARVVPGRG ICLDLAILDSAFLLSQVAPSLF **MGSIVQLSQS**

VTAYMVSAAGLGLVAIYFAT *QVVFDKSDLAKYSA*

Underlined sequence: Predicted transmembrane domain; **Bold sequence**: Predicted extracellular domain; *Italic sequence*: Predicted intracellular domain. Sequence in bold/underlined: used generate polyclonal rabbit serum

Localization of domains predicted using HMMTOP (G.E. Tusnady an I. Simon (1998) Principles Governing Amino Acid Composition of Integral Membrane Proteins: Applications to topology Prediction.J.Mol Biol. 283, 489-506.

Fig. 9

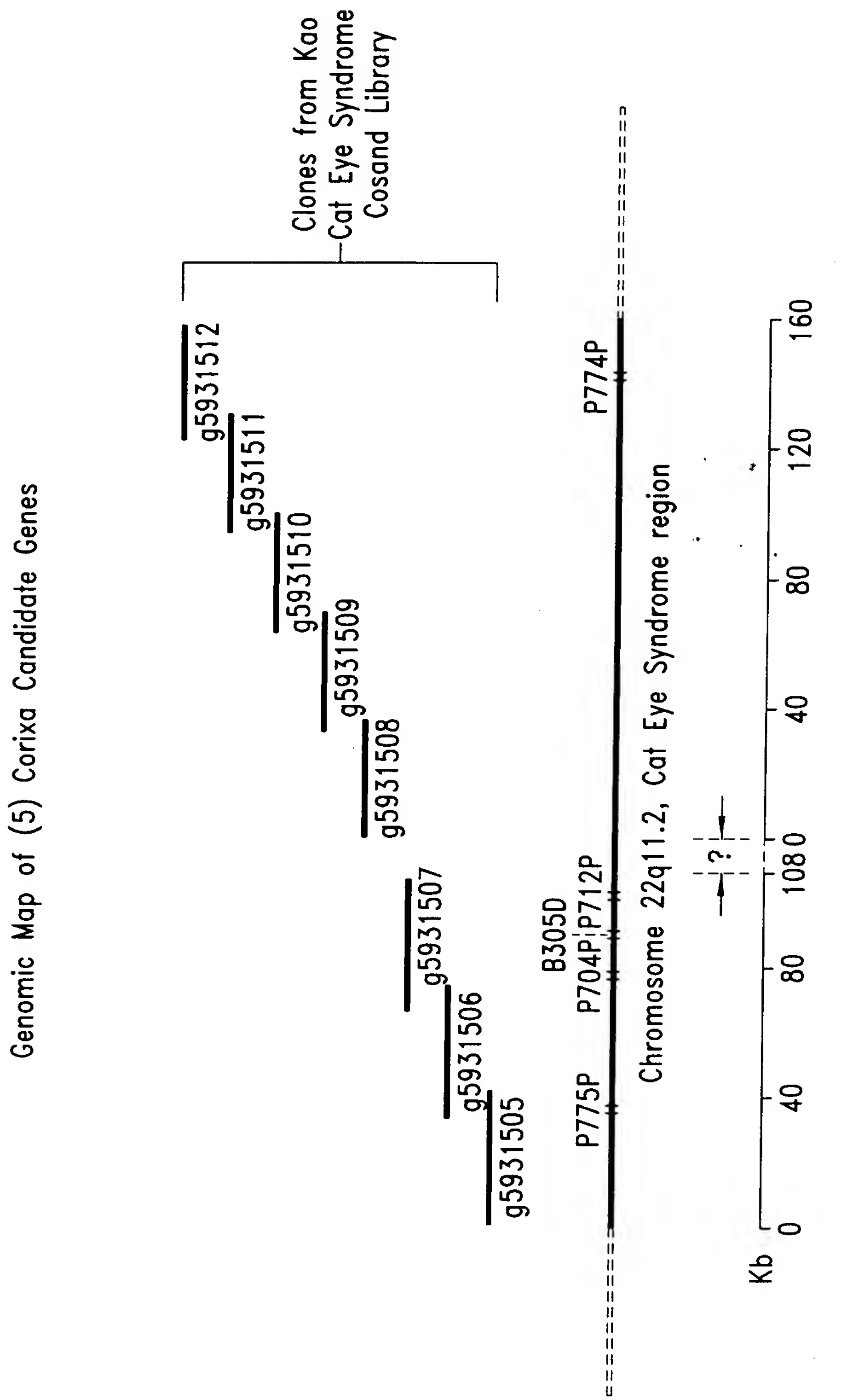

Genomic Map of (5) Corixa Candidate Genes
Clones from Kao Cat Eye Syndrome Cosand Library
g5931512
g5931511
g5931510
g5931509
g5931508
g5931507
g5931506
g5931505
P774P
B305D
P704P
P712P
P775P
Chromosome 22q11.2, Cat Eye Syndrome region
?
Kb
0
40
80
108
0
40
80
120
160

Fig. 10

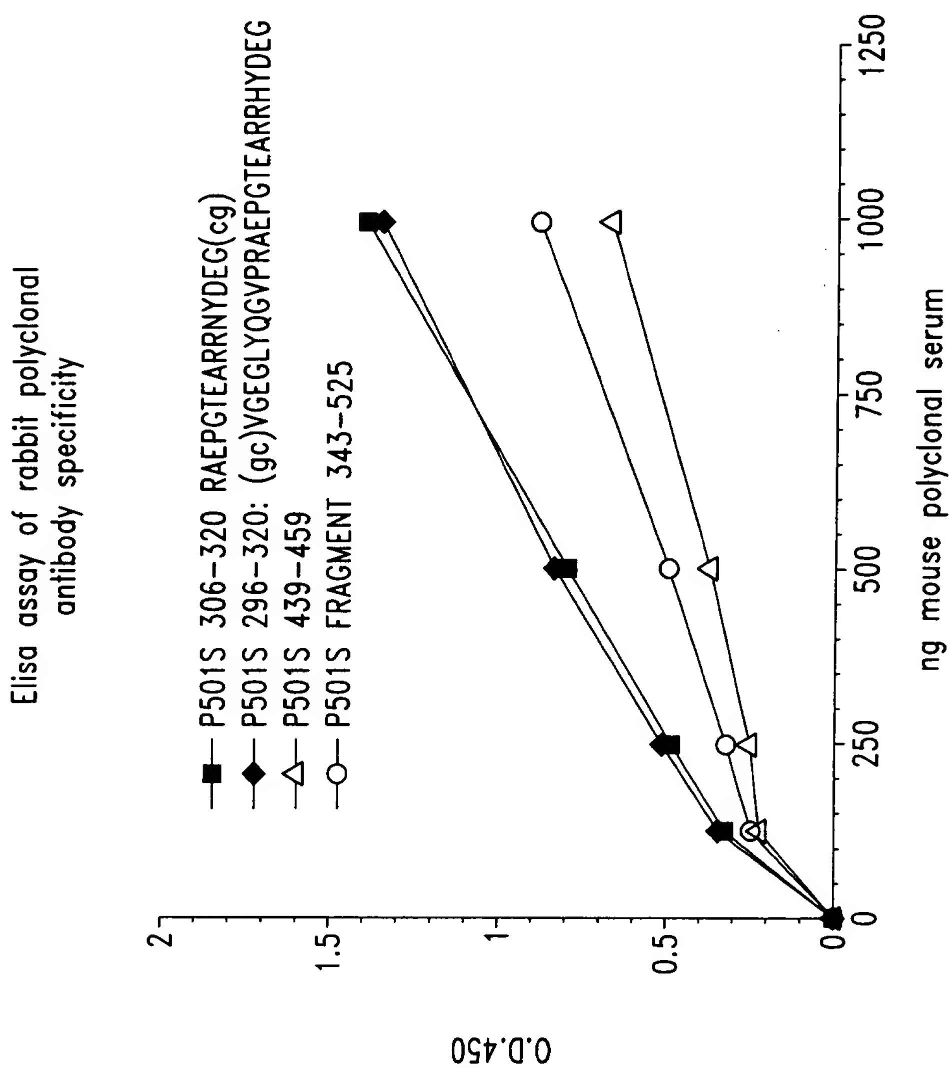

Elisa assay of rabbit polyclonal antibody specificity
P501S 306-320 RAEPGTEARRNYDEG(cg)
P501S 296-320: (gc)VGEGLYQGVPRAEPGTEARRHYDEG
P501S 439-459
P501S FRAGMENT 343-525
O.D.450
0
0.5
1
1.5
2
0
250
500
750
1000
1250
ng mouse polyclonal serum

Fig. 11

GTCACTTAGG AAAAGGTGTC CTTTCGGGCA GCCGGGCTCA GCATGAGGAA CAGAAGGAAT 60
GACACTCTGG ACAGCACCCG GACCCTGTAC TCCAGCGCGT CTCGGAGCAC AGACTTGTCT 120
TACAGTGAAA GCGACTTGGT GAATTTTATT CAAGCAAATT TTAAGAAACG AGAATGTGTC 180
TTCTTTACCA AAGATTCCAA GGCCACGGAG AATGTGTGCA AGTGTGGCTA TGCCCAGAGC 240
CAGCACATGG AAGGCACCCA GATCAACCAA AGTGAGAAAT GGAACTACAA GAAACACACC 300
AAGGAATTTC CTACCGACGC CTTTGGGGAT ATTCAGTTTG AGACACTGGG GAAGAAAGGG 360
AAGTATATAC GTCTGTCCTG CGACACGGAC GCGGAAATCC TTTACGAGCT GCTGACCCAG 420
CACTGGCACC TGAAAACACC CAACCTGGTC ATTTCTGTGA CCGGGGGCGC CAAGAACTTC 480
GCCCTGAAGC CGCGCATGCG CAAGATCTTC AGCCGGCTCA TCTACATCGC GCAGTCCAAA 540
GGTGCTTGGA TTCTCACGGG AGGCACCCAT TATGGCCTGA CGAAGTACAT CGGGGAGGTG 600
GTGAGAGATA ACACCATCAG CAGGAGTTCA GAGGAGAATA TTGTGGCCAT TGGCATAGCA 660
GCTTGGGGCA TGGTCTCCAA CCGGGACACC CTCATCAGGA ATTGCGATGC TGAGGGCTAT 720
TTTTTAGCCC AGTACCTTAT GGATGACTTC ACAAGGGATC CACTGTATAT CCTGGACAAC 780
AACCACACAC ATTTGCTGCT CGTGGACAAT GGCTGTCATG GACATCCCAC TGTCGAAGCA 840
AAGCTCCGGA ATCAGCTAGA GAAGCATATC TCTGAGCGCA CTATTCAAGA TTCCAACTAT 900
GGTGGCAAGA TCCCCATTGT GTGTTTTGCC CAAGGAGGTG GAAAAGAGAC TTTGAAAGCC 960
ATCAATACCT CCATCAAAAA TAAAATTCCT TGTGTGGTGG TGGAAGGCTC GGGCCGGATC 1020
GCTGATGTGA TCGCTAGCCT GGTGGAGGTG GAGGATGCCC CGACATCTTC TGCCGTCAAG 1080
GAGAAGCTGG TGCGCTTTTT ACCCCGCACG GTGTCCCGGC TGTCTGAGGA GGAGACTGAG 1140
AGTTGGATCA AATGGCTCAA AGAAATTCTC GAATGTTCTC ACCTATTAAC AGTTATTAAA 1200
ATGGAAGAAG CTGGGGATGA AATTGTGAGC AATGCCATCT CCTACGCTCT ATACAAAGCC 1260
TTCAGCACCA GTGAGCAAGA CAAGGATAAC TGGAATGGGC AGCTGAAGCT TCTGCTGGAG 1320
TGGAACCAGC TGGACTTAGC CAATGATGAG ATTTTCACCA ATGACCGCCG ATGGGAGTCT 1380
GCTGACCTTC AAGAAGTCAT GTTTACGGCT CTCATAAAGG ACAGACCCAA GTTTGTCCGC 1440
CTCTTTCTGG AGAATGGCTT GAACCTACGG AAGTTTCTCA CCCATGATGT CCTCACTGAA 1500
CTCTTCTCCA ACCACTTCAG CACGCTTGTG TACCGGAATC TGCAGATCGC CAAGAATTCC 1560
TATAATGATG CCCTCCTCAC GTTTGTCTGG AAACTGGTTG CGAACTTCCG AAGAGGCTTC 1620
CGGAAGGAAG ACAGAAATGG CCGGGACGAG ATGGACATAG AACTCCACGA CGTGTCTCCT 1680
ATTACTCGGC ACCCCCTGCA AGCTCTCTTC ATCTGGGCCA TTCTTCAGAA TAAGAAGGAA 1740
CTCTCCAAAG TCATTTGGGA GCAGACCAGG GGCTGCACTC TGGCAGCCCT GGGAGCCAGC 1800
AAGCTTCTGA AGACTCTGGC CAAAGTGAAG AACGACATCA ATGCTGCTGG GGAGTCCGAG 1860
GAGCTGGCTA ATGAGTACGA GACCCGGGCT GTTGAGCTGT TCACTGAGTG TTACAGCAGC 1920
GATGAAGACT TGGCAGAACA GCTGCTGGTC TATTCCTGTG AAGCTTGGGG TGGAAGCAAC 1980
TGTCTGGAGC TGGCGGTGGA GGCCACAGAC CAGCATTTCA CCGCCCAGCC TGGGGTCCAG 2040
AATTTTCTTT CTAAGCAATG GTATGGAGAG ATTTCCCGAG ACACCAAGAA CTGGAAGATT 2100

Fig. 12A (1)

ATCCTGTGTC TGTTTATTAT ACCCTTGGTG GGCTGTGGCT TTGTATCATT TAGGAAGAAA 2160
CCTGTCGACA AGCACAAGAA GCTGCTTTGG TACTATGTGG CGTTCTTCAC CTCCCCCTTC 2220
GTGGTCTTCT CCTGGAATGT GGTCTTCTAC ATCGCCTTCC TCCTGCTGTT TGCCTACGTG 2280
CTGCTCATGG ATTTCCATTC GGTGCCACAC CCCCCCGAGC TGGTCCTGTA CTCGCTGGTC 2340
TTTGTCCTCT TCTGTGATGA AGTGAGACAG TGGTACGTAA ATGGGGTGAA TTATTTTACT 2400
GACCTGTGGA ATGTGATGGA CACGCTGGGG CTTTTTTACT TCATAGCAGG AATTGTATTT 2460
CGGCTCCACT CTTCTAATAA AAGCTCTTTG TATTCTGGAC GAGTCATTTT CTGTCTGGAC 2520
TACATTATTT TCACTCTAAG ATTGATCCAC ATTTTTACTG TAAGCAGAAA CTTAGGACCC 2580
AAGATTATAA TGCTGCAGAG GATGCTGATC GATGTGTTCT TCTTCCTGTT CCTCTTTGCG 2640
GTGTGGATGG TGGCCTTTGG CGTGGCCAGG CAAGGGATCC TTAGGCAGAA TGAGCAGCGC 2700
TGGAGGTGGA TATTCCGTTC GGTCATCTAC GAGCCCTACC TGGCCATGTT CGGCCAGGTG 2760
CCCAGTGACG TGGATGGTAC CACGTATGAC TTTGCCCACT GCACCTTCAC TGGGAATGAG 2820
TCCAAGCCAC TGTGTGTGGA GCTGGATGAG CACAACCTGC CCCGGTTCCC CGAGTGGATC 2880
ACCATCCCCC TGGTGTGCAT CTACATGTTA TCCACCAACA TCCTGCTGGT CAACCTGCTG 2940
GTCGCCATGT TTGGCTACAC GGTGGGCACC GTCCAGGAGA ACAATGACCA GGTCTGGAAG 3000
TTCCAGAGGT ACTTCCTGGT GCAGGAGTAC TGCAGCCGCC TCAATATCCC CTTCCCCTTC 3060
ATCGTCTTCG CTTACTTCTA CATGGTGGTG AAGAAGTGCT TCAAGTGTTG CTGCAAGGAG 3120
AAAAACATGG AGTCTTCTGT CTGCTGTTTC AAAAATGAAG ACAATGAGAC TCTGGCATGG 3180
GAGGGTGTCA TGAAGGAAAA CTACCTTGTC AAGATCAACA CAAAAGCCAA CGACACCTCA 3240
GAGGAAATGA GGCATCGATT TAGACAACTG GATACAAAGC TTAATGATCT CAAGGGTCTT 3300
CTGAAAGAGA TTGCTAATAA AATCAAATAA AACTGTATGA AACTCTAATG GAGAAAAATC 3360
TAATTATAGC AAGATCATAT TAAGGAATGC TGATGAACAA TTTTGCTATC GACTACTAAA 3420
TGAGAGATTT TCAGACCCCT GGGTACATGG TGGATGATTT TAAATCACCC TAGTGTGCTG 3480
AGACCTTGAG AATAAAGTGT GTGATTGGTT TCATACTTGA AGACGGATAT AAAGGAAGAA 3540
TATTTCCTTT ATGTGTTTCT CCAGAATGGT GCCTGTTTCT CTCTGTGTCT CAATGCCTGG 3600
GACTGGAGGT TGATAGTTTA AGTGTGTTCT TACCGCCTCC TTTTTCCTTT AATCTTATTT 3660
TTGATGAACA CATATATAGG AGAACATCTA TCCTATGAAT AAGAACCTGG TCATGCTTTA 3720
CTCCTGTATT GTTATTTTGT TCATTTCCAA TTGATTCTCT ACTTTTCCCT TTTTTGTATT 3780
ATGTGACTAA TTAGTTGGCA TATTGTTAAA AGTCTCTCAA ATTAGGCCAG ATTCTAAAAC 3840
ATGCTGCAGC AAGAGGACCC CGCTCTCTTC AGGAAAAGTG TTTTCATTTC TCAGGATGCT 3900
TCTTACCTGT CAGAGGAGGT GACAAGGCAG TCTCTTGCTC TCTTGGACTC ACCAGGCTCC 3960
TATTGAAGGA ACCACCCCCA TTCCTAAATA TGTGAAAAGT CGCCCAAAAT GCAACCTTGA 4020
AAGGCACTAC TGACTTTGTT CTTATTGGAT ACTCCTCTTA TTTATTATTT TTCCATTAAA 4080
AATAATAGCT GGCTATTATA GAAAATTTAG ACCATACAGA GATGTAGAAA GAACATAAAT 4140
TGTCCCCATT ACCTTAAGGT AATCACTGCT AACAATTTCT GGATGGTTTT TCAAGTCTAT 4200
TTTTTTTCTA TGTATGTCTC AATTCTCTTT CAAAATTTTA CAGAATGTTA TCATACTACA 4260
TATATACTTT TTATGTAAGC TTTTTCACTT AGTATTTTAT CAAATATGTT TTTATTATAT 4320
TCATAGCCTT CTTAAACATT ATATCAATAA TTGCATAATA GGCAACCTCT AGCGATTACC 4380
ATAATTTTGC TCATTGAAGG CTATCTCCAG TTGATCATTG GGATGAGCAT CTTTGTGCAT 4440
GAATCCTATT GCTGTATTTG GGAAAATTTT CCAAGGTTAG ATTCCAATAA ATATCTATTT 4500
ATTATTAAAT ATTAAAATAT CGATTTATTA TTAAAACCAT TTATAAGGCT

Fig. 12A (2)

TTTTCATAAA 4560
TGTATAGCAA ATAGGAATTA TTAACTTGAG CATAAGATAT GAGATACATG AACCTGAACT 4620
ATTAAAATAA AATATTATAT TTAACCCTAG TTTAAGAAGA AGTCAATATG CTTATTTAAA 4680
TATTATGGAT GGTGGGCAGA TCACTTGAGG TCAGGAGTTC GAGACCAGCC TGGCCAACAT 4740
GGCAAAACCA CATCTCTACT AAAAATAAAA AAATTAGCTG GGTGTGGTGG TGCACTCCTG 4800
TAATCCCAGC TACTCAGAAG GCTGAGGTAC AAGAATTGCT GGAACCTGGG AGGCGGAGGT 4860
TGCAGTGAAC CAAGATTGCA CCACTGCACT CCAGCCGGGG TGACAGAGTG AGACTCCGAC 4920
TGAAAATAAA TAAATAAATA AATAAATAAA TAAATAAATA AATATTATGG ATGGTGAAGG 4980
GAATGGTATA GAATTGGAGA GATTATCTTA CTGAACACCT GTAGTCCCAG CTTTCTCTGG 5040
AAGTGGTGGT ATTTGAGCAG GATGTGCACA AGGCAATTGA AATGCCCATA ATTAGTTTCT 5100
CAGCTTTGAA TACACTATAA ACTCAGTGGC TGAAGGAGGA AATTTTAGAA GGAAGCTACT 5160
AAAAGATCTA ATTTGAAAAA CTACAAAAGC ATTAACTAAA AAAGTTTATT TTCCTTTTGT 5220
CTGGGCAGTA GTGAAAATAA CTACTCACAA CATTCACTAT GTTTGCAAGG AATTAACACA 5280
AATAAAAGAT GCCTTTTTAC TTAAACGCCA AGACAGAAAA CTTGCCCAAT ACTGAGAAGC 5340
AACTTGCATT AGAGAGGGAA CTGTTAAATG TTTTCAACCC AGTTCATCTG GTGGATGTTT 5400
TTGCAGGTTA CTCTGAGAAT TTTGCTTATG AAAAATCATT ATTTTTAGTG TAGTTCACAA 5460
TAATGTATTG AACATACTTC TAATCAAAGG TGCTATGTCC TTGTGTATGG TACTAAATGT 5520
GTCCTGTGTA CTTTTGCACA ACTGAGAATC CTGCGGCTTG GTTTAATGAG TGTGTTCATG 5580
AAATAAATAA TGGAGGAATT GTCAAAAAAA AAAAAAAAAA AAAAAAAAAA AAAAAAAAAA 5640
AAAAAAAAAA AAAAAAAAAA AAAAAAAA 5668

Fig. 12A (3)

MRNRRNDTLDSTRTLYSSASRSTDLSYSESDLVNFIQANFKKRECVFFTKDSKATENVCKCGYAQSQHME
GTQINQSEKWNYKKHTKEFPTDAFGDIQFETLGKKGKYIRLSCDTDAEILYELLTQHWHLKTPNLVISVT
GGAKNFALKPRMRKIFSRLIYIAQSKGAWILTGGTHYGLTKYIGEVVRDNTISRSSEENIVAIGIAAWGM
VSNRDTLIRNCDAEGYFLAQYLMDDFTRDPLYILDNNHTHLLLVDNGCHGHPTVEAKLRNQLEKHISERT
IQDSNYGGKIPIVCFAQGGGKETLKAINTSIKNKIPCVVVEGSGRIADVIASLVEVEDAPTSSAVKEKLV
RFLPRTVSRLSEEETESWIKWLKEILECSHLLTVIKMEEAGDEIVSNAISYALYKAFSTSEQDKDNWNGQ
LKLLLEWNQLDLANDEIFTNDRRWESADLQEVMFTALIKDRPKFVRLFLENGLNLRKFLTHDVLTELFSN
HFSTLVYRNLQIAKNSYNDALLTFVWKLVANFRRGFRKEDRNGRDEMDIELHDVSPITRHPLQALFIWAI
LQNKKELSKVIWEQTRGCTLAALGASKLLKTLAKVKNDINAAGESEELANEYETRAVELFTECYSSDEDL
AEQLLVYSCEAWGGSNCLELAVEATDQHFTAQPGVQNFLSKQWYGEISRDTKNWKIILCLFIIPLVGCGF
VSFRKKPVDKHKKLLWYYVAFFTSPFVVFSWNVVFYIAFLLLFAYVLLMDFHSVPHPPELVLYSLVFVLF
CDEVRQWYVNGVNYFTDLWNVMDTLGLFYFIAGIVFRLHSSNKSSLYSGRVIFCLDYIIFTLRLIHIFTV
SRNLGPKIIMLQRMLIDVFFFLFLFAVWMVAFGVARQGILRQNEQRWRWIFRSVIYEPYLAMFGQVPSDV
DGTTYDFAHCTFTGNESKPLCVELDEHNLPRFPEWITIPLVCIYMLSTNILLVNLLVAMFGYTVGTVQEN
NDQVWKFQRYFLVQEYCSRLNIPFPFIVFAYFYMVVKKCFKCCCKEKNMESSVCCFKNEDNETLAWEGVM
KENYLVKINTKANDTSEEMRHRFRQLDTKLNDLKGLLKEIANKIK

Fig. 12B